Epitomes

Important Advances in Clinical Medicine

Obstetrics and Gynecology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in obstetrics and gynecology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, research workers or scholars to stay abreast of these items of progress in obstetrics and gynecology that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Obstetrics and Gynecology of the California Medical Association and the summaries were prepared under its direction.

Reprint requests to Division of Scientific and Educational Activities,
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The NORPLANT Contraceptive System

HORMONAL IMPLANTS for long-term contraception have been studied since 1967. After trials of numerous steroids and delivery systems, it now appears that the NORPLANT system, developed by the Population Council, will be suitable for many women of reproductive age.

The active ingredient is the progestin levonorgestrel, which has been used in certain oral contraceptive formulations for many years. In the NORPLANT system it is continually released into a woman's tissues, and ultimately the bloodstream, from six silastic capsules implanted subdermally into the upper arm and remains effective for at least five years. Its contraceptive action is threefold: inhibiting ovulation (in about 50% of cycles), thickening cervical mucus and suppressing endometrial activity.

Field trials now cover more than 50,000 woman-months of use. Its efficacy is roughly comparable to that of tubal sterilization. In a four-year clinical study by Sivin, the annual pregnancy rate was generally below 0.5 per 100 woman-years and the cumulative five-year pregnancy rate in 992 initial acceptors was 2.7 per 100 continuing users. Fertility promptly returns following removal.

While a newer two-capsule version is undergoing field trials, the six-capsule NORPLANT is likely to achieve approval by the Food and Drug Administration (FDA) earlier because of its lengthier period of study. The six-capsule formulation has been approved for distribution in Finland, where a manufacturer (Leiras) has been licensed. FDA approval is under consideration but the method is not yet approved for use in the United States.

As with all contraceptives based on continuous administration of a progestin, women using NORPLANT frequently experience irregular menses and occasionally intermenstrual spotting or amenorrhea. Break-through bleeding, while considered intolerable by some women, is seldom serious and tends to diminish after the first three to six months. Other side effects usually attributable to steroid contraception occur but tend to be less frequent and severe than with oral steroids because of the low daily dose released by the implants.

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External Cephalic Version

THE USE OF EXTERNAL CEPHALIC VERSION underwent a significant reduction in the early 1970s. Since then, the management of breech presentation at or near term has been by cesarean section and, in selected cases, by vaginal breech delivery. Despite correcting for congenital anomalies, the morbidity and mortality rates for breech deliveries have remained higher for those neonates delivered vaginally than for those delivered by cesarean section. Risks incurred with a vaginal breech birth include umbilical cord prolapse, entrapment of the aftercoming head and birth trauma. Although the alternative of doing a cesarean section for each breech presen-

tation theoretically would reduce the incidence of neonatal morbidity and mortality, it would be at the expense of increased maternal morbidity.

Recently, external cephalic version has been readdressed to reduce the incidence of breech presentations at term. Revisions in the procedure have included changing the timing of the version to 37 weeks or more gestation, the concomitant use of a tocolytic agent during the procedure, preevaluation of the fetus with ultrasound scanning, fetal monitoring before, during and after the version for the detection of fetal distress and doing the version in a hospital with the capability for an immediate cesarean section. The application to more mature fetuses allows for the possibility of a late spontaneous version, minimizes the chances for a spontaneous reversion and decreases the risk for an emergency delivery of an immature fetus. Recent reports have indicated success rates of 55% to 77%, with a very low incidence of either spontaneous reversion or spontaneous version after a failed attempt. The potential risk of external cephalic version includes abruptio placentae, cord entanglement, fetal-maternal hemorrhage, labor, fetal injury or death. The perinatal morbidity and mortality with this procedure is still being evaluated, but preliminary reports indicate it is probably low, with one fetal death in 630 cases.

Contraindications to external version have included the presence of a uterine scar, oligohydramnios, premature rupture of membranes, third trimester bleeding, placenta previa and patients with contraindication(s) to tocolytic agents.

Currently, protocols for doing external version have included the following:

- Informed consent.
- Gestational age of 37 to 40 weeks.
- Doing the version in a hospital with provision for an immediate cesarean section.
- The mother should not eat or drink six to eight hours before the procedure.
- An ultrasound examination to confirm presentation and exclude oligohydramnios, multiple gestations, anomalies and placenta previa.
- A reactive nonstress test before doing the version.
- Administration of a tocolytic agent during the version.
- Continuous monitoring of the fetal heart rate and position with real-time ultrasound during the version.
- Terminate the version if severe maternal discomfort or sustained fetal heart rate deceleration occurs.
- A reactive nonstress test before discharge of the patient.
- Administration of Rh immune globulin to Rh-negative patients before discharge.

Careful adherence to a protocol and patient selection have probably allowed for the current experience of breech version. If the procedure could be confirmed to have a low risk, physicians would have a third alternative to managing cases of breech presentation.

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Vaginal Delivery After Previous Cesarean Section

DURING THE PAST DECADE, repeat cesarean sections have accounted for a 30% rise in the cesarean section rate. Motivated by this rising rate, attention has recently been focused on whether vaginal birth after cesarean section is a reasonable alternative to the traditional approach of doing an elective repeat cesarean section. As the evidence has accumulated, a trial of labor or attempted vaginal delivery after a prior cesarean section would appear to be the safer form of obstetric management.

With the option of delivering vaginally after a cesarean section, about 60% of the patients will accept a trial of labor, and 80% of those will achieve a vaginal delivery. Those women with an enhanced probability of achieving a vaginal delivery have had a previous cesarean section for breech presentation, a prior vaginal birth and an infant with a birth weight of less than 4,000 grams.

If a patient elects to undergo a vaginal delivery after a cesarean section, delivery should be done in a hospital. Current criteria include a singleton pregnancy with a known low transverse uterine incision, continuous electronic fetal monitoring, an intravenous line, blood available and a physician available capable of doing an immediate cesarean section. Patients with a fundal incision should not undergo a trial of labor.

The use of oxytocin during the trial of labor should be reserved for those instances where an appropriate indication has been found. When oxytocin is given, adherence to current guidelines is necessary. Under these circumstances, oxytocin may be safely used during a trial of labor and has not been associated with a significant increase in uterine dehiscence or fetal distress. The use of oxytocin, however, is associated with a greater probability of repeat cesarean section (30%) than without oxytocin (10%). During labor, epidural anesthesia may also be used and is not associated with a greater likelihood of repeat cesarean section.

In contrast with those patients not undergoing a trial of labor, the patient who has a vaginal delivery after cesarean section has significantly less morbidity. While the incidences of uterine dehiscence are similar, a patient undergoing a trial of labor has significantly less incidence of febrile morbidity and hysterectomy and shorter hospital stays. But those patients in whom a trial of labor fails and who require a repeat cesarean section have the highest rate of infectious morbidity. In this latter circumstance, the adjunctive use of prophylactic antibiotics would appear to be reasonable.

Another area of concern is the management of a patient with a uterine defect identified after vaginal delivery. Unless the defect involves the uterine fundus, the preferred management at this time would be not to repair the defect. If the